

Presentation Layout

- **Agriculture Water for Africa (AgWA)**
- **Africa's Challenges in Agricultural Water Management in the context of Climate change**
- **AWM Opportunities and Portfolio**
- **The Way Forward**
- **Investment Opportunities**

Agricultural Water Management (AWM)

AWM includes capture and storage (in dams, in underground) as well drainage of any water used for agriculture (crops, livestock, and fish) (IWMI 2006).

It includes both development and management of water for food.

Why AWM Strategy? (WB strategy for water in Africa)

- ❑ Setting up the **strategic framework** for AWM and action plans
- ❑ Promoting **institutional and policy reforms**
- ❑ Investing in **viable and sustainable projects**
- ❑ Ensuring **effective and successful implementation**
- ❑ **Market oriented irrigation on a public private partnership basis**
- ❑ Individual small holder irrigation for higher market
- ❑ Small scale community-managed irrigation for local market and participatory management
- ❑ Reform and modernization of existing large irrigation projects
- ❑ Improved water control and watershed management environment

Context in Africa

To add, from the point of view of Banks and Donors:

► The ultimate objectives are not irrigation or infrastructures but:

- Food production
- Poverty reduction
- Sustainability of Ecosystems

► The principles are:

- Equity
- Efficiency
- Affordability
- Sustainability

Any approach of AWM Scheme has to integrate these criteria when we ask for reform, rehabilitation or modernization.

Besides than results, investments on AWM should focus also on impacts, adapted success stories but in particular adopted solutions.

- Different climate zones with a focus on some parts of Africa, like the HoA, with political conflicts and post conflicts (Where the farmer is often a women: Gender), drought and hunger.
- Existing big water towers in central Africa
- Agriculture is the main activity and rain is often erratic, unpredictable and insufficient. Extreme event are exacerbated by climate change, in particular recurrent drought.
- Pastoralist in ASAL cover large zones, regardless to country boards (Tansboundary water and land), with historical social rules for management
- Small holders constitute the major part of farmers

Constraints and Issues – AWM, related to

- ▶ Water Scarcity exacerbated by climate change effects:
 - besides natural scarcity of fresh water as a balance between supply and demand, scarcity is:
 - lack in access to water services in Agriculture related to the failure of adequate policy and institutions to provide supply and manage demand
 - lack of adequate infrastructures
 - financial constraints
- ▶ Climate change: More and more extreme events: floods and drought. we should adapt our design of infrastructures to the new trend of hydrological events and also our management (in irrigated area and in rainfed area, conjunctive use of resources)

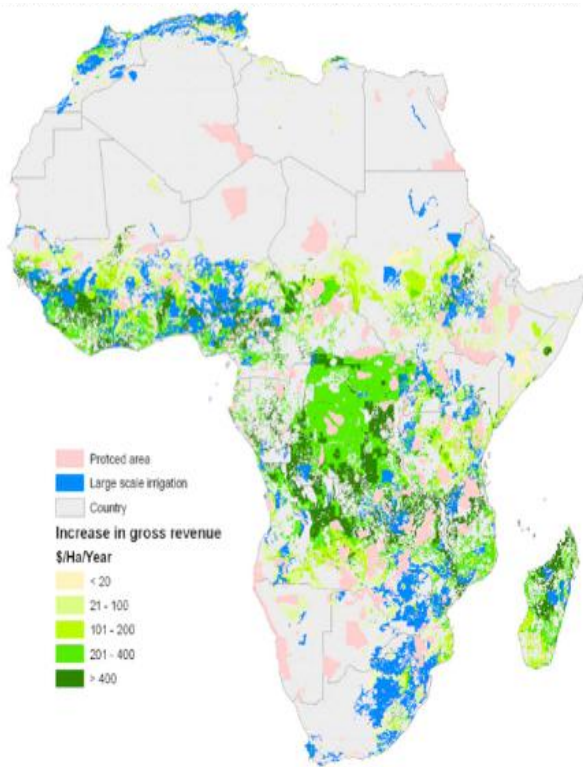
▶ AWM Policy:

- Its shows how investment in AWM can best contribute to agricultural production and food security, poverty reduction and ecosystems protection (these are the ultimate objectives in Africa)
- The lack of the right policy is an impediment for investment:
 - productivity and production: existing and expanding irrigation schemes and water harvesting in rainfed area
 - we don't look automatically to cost benefit or low cost solutions, but to cost effectiveness as we initiate a system to be optimal after some years and to farm level viability, profitability
 - invest in adaptive research in the field and improve local solutions tested and performed for long term ago from population knowledge
- AMW Policy should clearly reflected in the whole Development strategy: roads, markets, extension, food processing, ... Ensuring IWRM (from the basin to the end user)

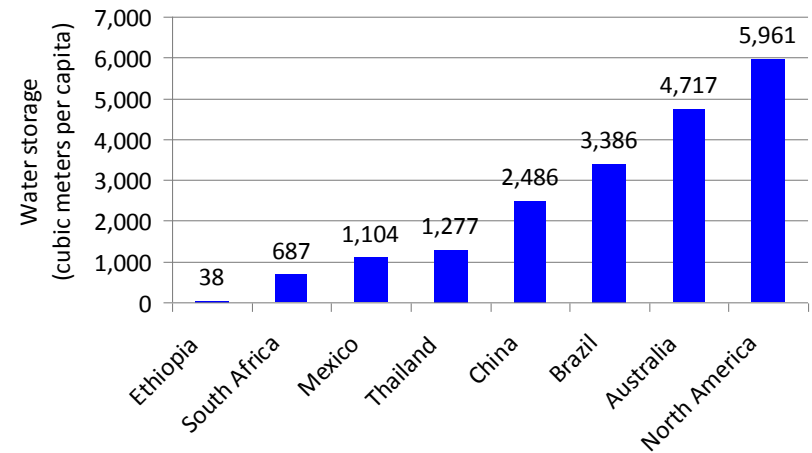
- Institutional and legal frameworks:
 - Fundamental lesson of the past for new investments in AWM: the empowered farmer, with a share in decision making (design, management) and responsibilities for maintenance and management (cost sharing), will invest and produce as expected
 - Clear policy in place
 - Legal framework
 - Organizations to deliver an efficient role of the government and promote PPP and help to organize farmers and promote farmer investment (with targeted subsidies and incentives)
 - Promotion Market oriented on a PPP basis: e.g.: management and services of public irrigation of public irrigation schemes (distribution, maintenance, cost)
- Refinement of policy, institutional and legal frameworks for adaptation to climate change: climate change agenda and AWM policy cannot run separately. The two communities have to be closer (e.g.: drought monitoring with meteorologists and AWM experts)

Challenges (Sources: ACID)

Less than 5% agricultural land is irrigated



Africa has absolutely minimal water storage capacity to buffer hydrological shocks





The Challenges- Agriculture Water Management in Africa

- ❑ Only **9 million** ha of land under water management in the region today, representing just **5%** of the total cultivated area of **183 million ha**, and less than a **fifth** of the estimated physical potential of about **39 million ha**, much below other regions of the world.
- ❑ **Less than a fifth of the physical potential for irrigation** has been developed to date there is clearly significant potential for expansion.
- ❑ **Water withdrawals for agriculture are limited – less than 3%** of total renewable resources – and although a number of basins are currently experiencing water scarcity this is mainly because of a lack of storage rather than absolute scarcity.

- **Technical Challenges and opportunities in Africa to cope with climate change:**

- How to move from Emergency and food aid to development from ALWM. How to be proactive for drought, monitoring and preparedness: this is an urgency in the East of Africa but also to strengthen CILSS and Sahel initiatives
- Low Development of community based small scale water control facilities: predominant in Africa: Invest to improve reliability of these production systems (inland valley/wetland cultivation, plain flooding/flood recession, water harvesting).
- Low Expansion and development of areas under full water control: It is a priority in the East and West of Africa. We have to secure access to land and water and ensure sustainability and profitability conditions (infrastructures, markets, ...)
- Improvement of existing large scale irrigation schemes for better water service, water saving and production (rehabilitation, modernization)

- Multi objectives and multi users when design water storage infrastructures: water nexus energy, environment, fisheries, livestock, crops, ecosystem services, parks)
- FAO forecasts that irrigation water withdrawal in SSA would increase by 45% by 2030 (from about 100 km³ to 145 km³): Policy to invest in additional water infrastructures, including water storage facilities, Environmental constraints included from the design.
- AWM needs big volumes and dimensions of infrastructures, than big investments. e.g.: the same volume of water could be developed, or for only 1000ha irrigated area, or for a city with 1 Million inhabitants with about 80l/inhabitant/day. About 80% of available water is consumed by Agriculture.

Other Constraints and Issues - AWM

- ❑ There are **many players in AWM** and bringing them all together for successful development is not easy. Most countries **lack capacity for AWM in an integrated way and many of them started to implement a master plan and Road Map for IWRM.**
- ❑ AWM does not feature in many countries: Policy, Strategy, Master plans
- ❑ Donors often pursue their **own specific AWM agendas** and so their efforts are fragmented and in some cases duplicated.: AgWA created to Harmonize in the same zone of intervention
- ❑ There is no regionally **accepted evidence base to measure and demonstrate success in AWM** within countries and across the region: Proposal for Assessment.

The Challenges-Poverty and Agricultural Growth

- ❑ **Eighty-five** percent of Africa's poor live in rural areas and depend largely on agriculture for their livelihoods.
- ❑ To advocate AWM investments, the principle is that AWM is not the ultimate objective as it is embedded in food production activities or related services (livestock, fisheries, ecosystem services).
- ❑ Africa still needs to reach the Target 1 of the MDGs – i.e., **to halve, by 2015**, the number of people living on less than \$1 a day.
- ❑ If nothing changes, the absolute numbers of poor in the region will continue to increase and by **2015 close to half the world's poor will live in this region.**

The Way Forward

- ❑ **A community of practice (Water Group)** at the operational level would be useful to bring all water experts and water related departments together (horizontally) and enhanced AWM knowledge sharing in Africa
- ❑ Consider assigning a **panel of experts to provide AWM advice** and assessments (also by networking with strategic partners and academic institutions specialised in AWM): AgWA mission as an Expert Pool
- ❑ A **recognition and reward system** for new ideas, knowledge and contribution to development outcomes through water related operations would incentivize the water professionals in the Africa

To mainstream climate change risk management and adaptation strategy, AWM remains one of the pillar to:

- ❑ **Promote identification of AWM projects** with attractive economic rates of return and that are socially and environmentally friendly
- ❑ Support the **AWM policy and strategies development, capacity building activities and reform process** to create a favorable environment for profitable investment and sustainable resources management
- ❑ **Operate via River Basin Organizations and adopt a collaborative** process involving all the stakeholders in watershed planning.
- ❑ AgWA is developing a proposal for an Agenda (2015-2025), aligned to CAADP , , from an harmonized approach between decision makers, NSA (non state actors) and civil society and Donors

The Way Forward

- ❑ The potential to improve the productivity of **existing equipped irrigated areas** should be explored in parallel with extension of irrigated area.
- ❑ The **multi-objective operating rules** can allow expansion of irrigation while maintaining planned generation capacity.
- ❑ The **private sector should be encouraged** to play a larger role in irrigated agricultural WM and irrigation service delivery. There is a lot that governments can do to increase private sector involvement
- ❑ **Public-private partnerships (PPP) in AWM** should be forged to allow the continent to escape hunger and poverty.

Promote AWM Investments in Africa

Opportunities-Political will and Commitments

- ❑ The **African Water Vision 2025 and Framework for Action (2000)**
- ❑ The **African Council of Minister (AMCOW) establishment (2002)**
- ❑ **Maputo Declaration (2003)** by the African leaders to allocate **10% or more of national budgets to agriculture/rural development by 2008**
- ❑ The Sirte Declaration at the Extraordinary Session of the Assembly Heads of States and Governments **(2004)**
- ❑ **NEPAD with the support of partners** including the Bank has embarked on the implementation of thematic **programmes on water and sanitation infrastructure as well as agriculture**
- ❑ The **establishment of various River basin organisations** (Senegal, Niger, Nile and SADC)
- ❑ AU-Summit on Water and Sanitation **(Egypt, July 2008)**
- ❑ African FAO-Members Summit on Water of Food Security, Energy, and climate Change **_(Sirte, Libya, December 2008)**
- ❑ **_AgWA Secretariat endorsed by AMCOW , AUC and Donors , hosted by FAO/SFE from 2012, to support the AU vision and several initiatives and CAADP within NEPAD framework**

Framework of Investments: CAADP Country compact process from NEAPD Initiative

► AMCOW Portfolio programme (2003), Seven strategic objectives:

- Improve the legal and regulatory framework at the national and regional level;
- Improve national and transboundary river basin management, planning and coordination;
- Strengthen linkages among macro-economic, social and environmental policies;
- Improve information acquisition, management and dissemination;
- Support awareness building, education and training;
- Promote public participation; and
- Invest in infrastructure.

The projects were classified into six groups:

- Legislation, Policy and Strategic Planning
- Capacity Building and Training
- **Awareness Creation, Consultation and Public Participation**
- Information Collection, Analysis, Management and Dissemination
- Infrastructure Investment.

- FAO/Sirte 2008 “Water and Energy in Africa: the challenges of Climate Change”, addressed the financial aspects, both in terms of costs and sources of funding requirements

- Draw up a portfolio of 1000 projects and programmes of investment in AWM and Energy in the 53 African countries (unrealistic)

- total budget estimated is 65 billion USD for irrigation, water control and hydropower
 - We need to update a realistic Agenda for investments, according to the capacities of the countries (not only financial)

**Possible Investment Opportunities AWM,
Ref. "Investment Report of Donors in AWM in SSA, 2007:**

- Estimated potential for new irrigation (from surface and groundwater sources) is 32 million ha (almost five times the area currently developed).
- In addition, about 2 million ha equipped and need rehabilitation or modernization
- Improving water control for wetlands, water harvesting systems, flood recession areas is still a big potential with relatively low-cost investment
- Rainfed area: the big part (possibly up to 46 million ha) for improving in field rain-water management in dry land farming

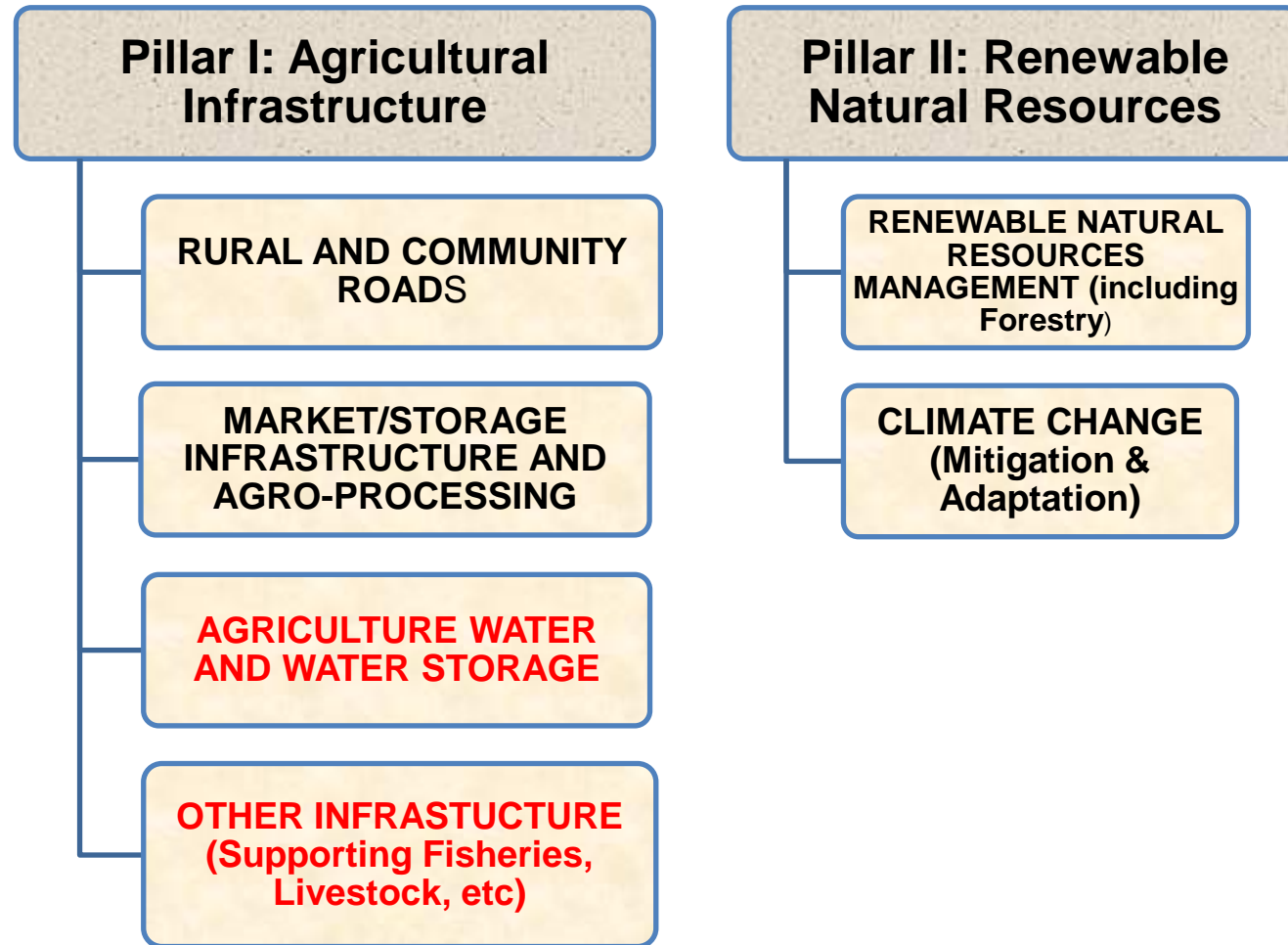
AWF: 2012-2016 Portfolio

Main Components

- **Prepare Bankable Regional, Transboundary and National Projects/Programmes and Infrastructures:** 60% of Project Budget
- **Undertake Small Strategic Investments and Infrastructure projects,** with focus on upscaling and replication: 10% of Project Budget
- **Enhance Water Governance:** 15% of Project Budget (national, regional and transboundary water policies, strategies and IWRM plans, institutional and regulatory frameworks, including for PPPs),
 - funding mechanisms, and service delivery improvement projects) and strengthen institutional and human resources capacities at regional transboundary, national and local levels
- **Promote Water Knowledge:** 15% of Project Budget

AFDB's Agriculture Sector Strategy (2008-2013)

Pillars and Areas of Intervention



Opportunities-AFDB's Water Business Plan's Guiding Principles

- ❑ **Watershed Based IRWM** approach.
- ❑ Improved **internal and external coordination** and Collaboration
- ❑ Investing in **viable and sustainable** projects.
- ❑ Enhanced **regional integration and trans-boundary** water management.
- ❑ Effective mainstreaming of **gender equality** and impact of climate change.

Example: AFDB's BP Targets and Focus Area

But many other partners: GIZ, USAID,

Agriculture Water Development and Water Storage Enhancement- Business Plan- (2008-2013)

- ❑ **Agricultural Water Development**

(500, 000 ha)

- ❑ **Water Storage Enhancement**
Develop infrastructure to increase
water storage capacity in Africa by at
least 1% (8.5 BCM) for multi-purpose
use.

- ❑ **Institutional Support and Project
Preparation Studies**

Capacity Building Program

Objective:

Increase capacity of Agricultural
institutions on a sustainable basis for
effective and results-oriented execution
and management of agricultural
development

Program Cost & Financing (2012 – 2016):

Total Estimated Cost – UA 100 million
ADF Financing - UA 30 million
Financing Gap - UA 70 million



Example: AFDB's Water Portfolio (IRWM Report 2012)

- ❑ Geographically,
 - ❑ about half of the portfolio was concentrated in East and West:
 - West:
 - ❑ East: (29%)
 - ❑ and West (24%)
 - ❑ and North (25%).
 - ❑ Central and Southern regions have received smaller shares (9% each).
 - ❑ Multinational projects received about 4%.

- ▶ The need to produce more food for more people, in a sustainable way, to end hunger and malnutrition and to mitigate poverty, call for a strong development on Agricultural Water and Management, nexus land and energy.
- ▶ Water scarcity and drought are the main constraints in some parts of Africa, where in other parts and on face of it, many available water resources zones are not yet explored nor exploited, from the large rivers, big lakes, aquifer systems and wetlands.

- Transboundary rivers basins and aquifer systems, linked to the population from riparian countries, with communities living around these resources and crossing eventually countries' borders.
- Cooperation and regional programmes, to enhance dialogue, institutional and legal frameworks
- AgWA implements programmes in South Sudan, Kenya and Uganda

- Weak investments for infrastructures to address the high hydrological variability of rainfall and secure the water service.
- Needs for capacity building and for translation of evidence-based knowledge to action in the field
- Needs to address AWM from a participatory way. and to focus on the ultimate beneficiaries and communities, with respect to their culture, rules and specific needs.
- Needs to develop Drought Monitoring and Early warning and link Emergency and Development

- **Partnership for Agricultural Water management: AgWA**
- AgWA was formed in response to a **Call for Action** by a meeting of 130 stakeholders in **Ouagadougou** in March 2007 and was endorsed by the **Ministerial Conference on Water for Agriculture and Energy in Africa at Sirte, Libya** in December 2008.
- AgWA presently consists of a partnership of the main stakeholders who share a common interest in promoting increased engagement and investment in Agricultural Water Management in Africa.
- Amongst AgWA main partners is the AfDB, AMCOW, FAO, IFAD, IWMI, NEPAD/NPCA, World Bank, Department of State (Office of Environmental Policy – OES), and the EU.

AgWA Mission: From Knowledge to Adapted and Adopted Action

- Advocacy
- Partner harmonization
- Resource mobilization
- Generating and sharing knowledge; and
- Capacity building

Take Home Message

- ❑ Do we **understand** the situation with AWM in Africa?
- ❑ Africa is one Word, big Continent and many different and complex situations (natural and environmental, social, political, legal, institutional, financial)
- ❑ How and What **can we do** to achieve food security through AWM in Africa?
- ❑ How to **turn the strategies and plans into reality** in countries and among rural communities to increase food production, improve economic growth and reduce poverty.
- ❑ Let us face the reality and continue on the bridge between knowledge and action

Thank you